



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department
of Community Health



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New updates in this issue:

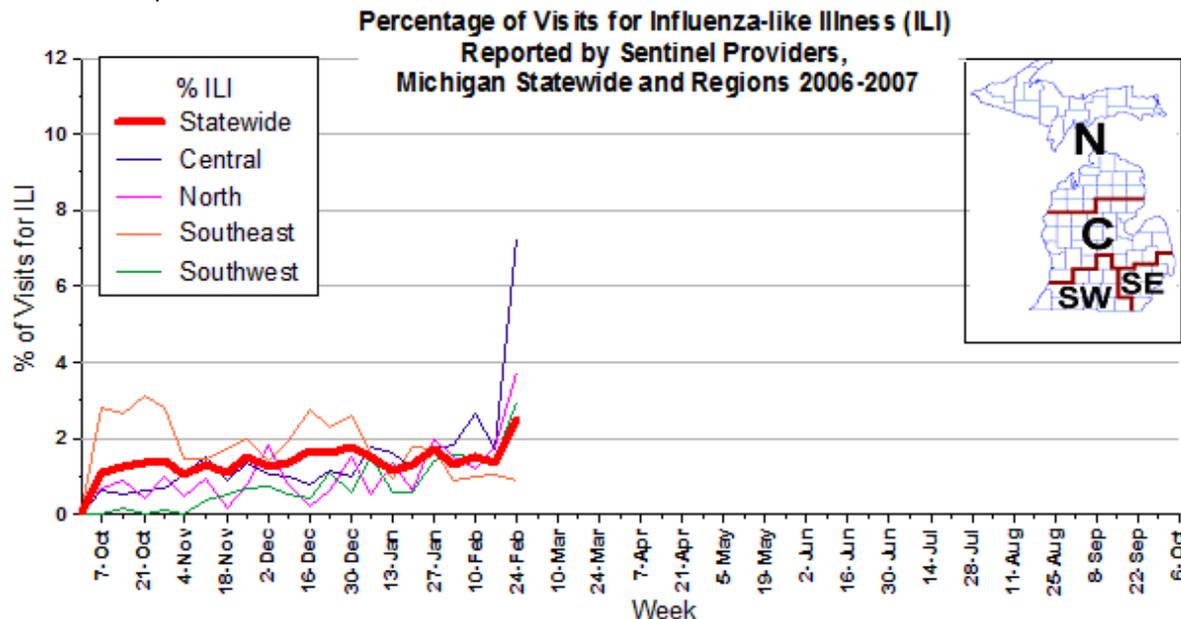
- **Michigan Surveillance:** Activity increases to regional; Sentinel providers and labs noting increases.
- **National Surveillance:** Activity continues to increase; 38 states are at regional or widespread levels.
- **Avian Influenza:** First human H5N1 case in Laos; additional human cases in China and Egypt.

Michigan Disease Surveillance System: The last week has continued to see a slight increase in individual influenza reports to the local health departments, but a stronger increase in aggregate flu-like illness reports. This rise in aggregate cases can be attributed to known irregularities in school reports. A continued increasing trend is not unexpected, as reporting levels are consistent with this time last year, when the peak of influenza occurred.

Emergency Department Surveillance: Emergency department visits due to constitutional increased this past week, while respiratory complaints decreased slightly. The levels reported are consistent with levels reported this time last year. Eight constitutional alerts in Regions 1(3), 5(3), and 7(2) and one respiratory alert in Region 5 were generated last week.

Over-the-Counter Product Surveillance: OTC product sales were mixed last week. There was a slight increase in chest rubs and internal nasal products, a slight decrease in children's electrolytes and thermometers, and the remaining sales held fairly steady. The indicators levels are comparable to those seen at this time last year, except for the adult and pediatric cold relief liquid, which seem to be holding about 1-2% below its percentage of total sales for this time last year.

Sentinel Surveillance (as of March 1, 2007): During the week ending February 24, 2007, the proportion of visits due to influenza-like illness (ILI) increased from last week to 2.5% of all visits, representing 146 cases of ILI out of 5,844 total patient visits; twenty-two sentinels provided data for this report. Increases in ILI were reported by all of the surveillance regions, except the Southeast, which remained relatively unchanged from last week. The percentage of visits due to ILI in each of the surveillance regions is 7.3%, Central; 3.7%, North; 0.9% Southeast; and 2.9% Southwest.



As part of pandemic influenza preparedness, CDC and MDCH highly encourage and recommend year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or potterr1@michigan.gov for more information.

Laboratory Surveillance (as of March 1): For the 2006-2007 influenza season, there have been 95 culture-confirmed cases from the MDCH Lab:

- 58 A:H1N1 (Southwest (20), Southeast (19), Central (12), North (7))
- 2 A:H1,N pending (Central (1), North (1))
- 9 A:H3N2 (North (4), Southwest (3), Southeast (1), Wisconsin (1))
- 2 A:H3,N pending (Central (1), North (1))
- 24 B (Central (8), Southeast (7), Southwest (5), North (3), Wisconsin (1), Unknown (1))

All influenza B cultures have been B/Malaysia, except for one B/Shanghai from the Southeast region. Overall MDCH submission activity is starting to increase. Sentinel laboratories in the North and Central regions are reporting continued small but steady increases in the number of positive results, the Southwest is reporting a noticeable increase in positives, and the Southeast continues to hold steady. Low but steady levels of parainfluenza, adenovirus and respiratory syncytial virus are being reported as well.

***As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence. MDCH suggests that during periods of low influenza activity in your community, all positive rapid tests results be confirmed by sending in a specimen for viral culture; this can be arranged through your local health department.

Influenza-Associated Pediatric Mortality (as of March 1): For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan. MDCH is currently investigating a possible pediatric death due to influenza from the Southeast region.

***Reminder: The CDC has asked all states to continue to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child less than 18 years of age resulting from a clinically compatible illness confirmed to be influenza by an appropriate laboratory or rapid diagnostic test, but also unexplained death with evidence of an infectious process in a child. Refer to http://www.michigan.gov/documents/fluletter_107562_7.pdf for the complete protocol. It is important to immediately call or fax information to MDCH to ensure that appropriate clinical specimens can be obtained.

Congregate Settings Outbreaks (as of March 1): A report was received of a small, single outbreak of influenza A in a nursing home in the Central region; further investigation is ongoing. There has been one report of an influenza outbreak to MDCH for the 2006-2007 influenza season.

National (CDC, February 27): CDC has posted an update "Flu Season Summary (October 1, 2006 – February 17, 2007)." The document can be accessed at <http://www.cdc.gov/flu/about/qa/O607season.htm>.

National (CDC, February 23): During week 7 (February 11 - February 17, 2007), influenza activity continued to increase in the United States. During week 7, WHO and NREVSS laboratories reported 4,798 specimens tested for influenza viruses, 1,189 (24.8%) of which were positive: 129 influenza A (H1) viruses, 31 influenza A (H3) viruses, 794 influenza A viruses that were not subtyped, and 235 influenza B viruses. ILI data was above baseline for the ninth week this season. Twenty-four states reported widespread influenza activity; 14 states and New York City reported regional influenza activity; 10 states and the District of Columbia reported local influenza activity; and two states reported sporadic influenza activity. The reporting of widespread or regional influenza activity increased from 33 states for week 6 to 38 states for week 7. The percent of deaths due to pneumonia and influenza remained below baseline level.

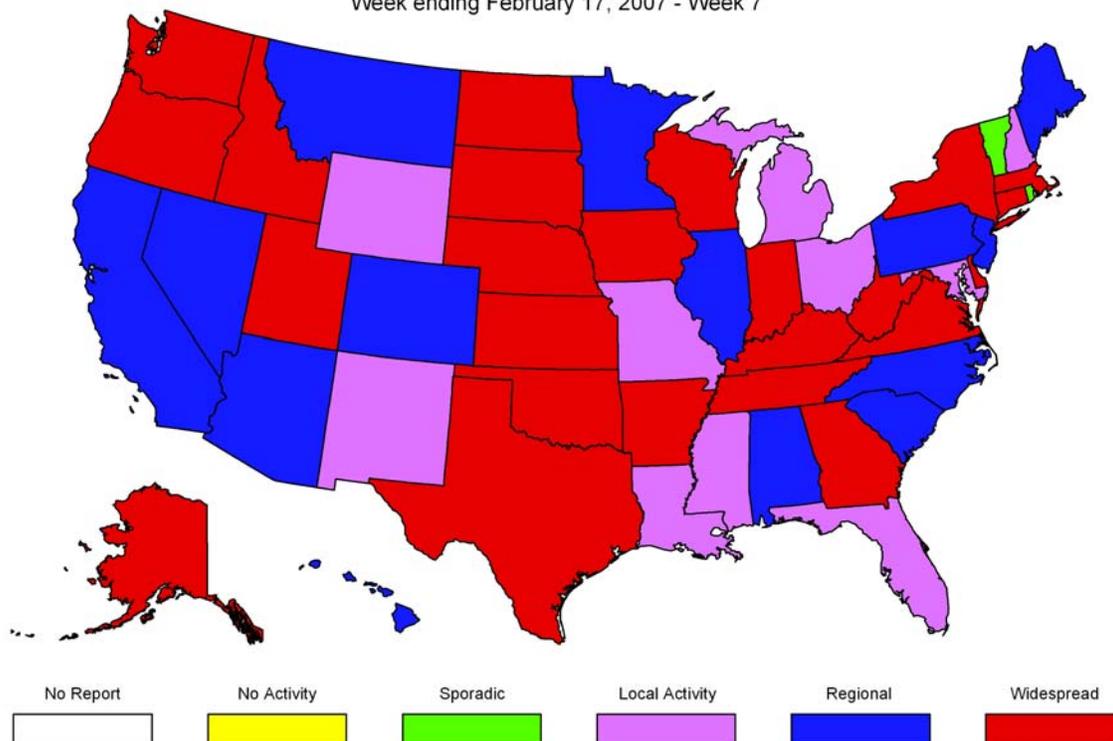
Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 101,388 specimens for influenza viruses and 10,458 (10.3%) were positive. Among the 10,458 influenza viruses, 8,748 (83.6%) were influenza A viruses and 1,710 (16.4%) were influenza B viruses. Two thousand four hundred thirty-nine (27.9%) of the 8,748 influenza A viruses have been subtyped: 2,117 (86.8%) were influenza A (H1) viruses and 322 (13.2%) were influenza A (H3) viruses.

To access the CDC weekly surveillance report throughout the influenza season, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

January 28 – February 17, 2007 (specimens testing positive) (Michigan is in the East North Central Region)	
>20% positive	10-20% positive
East North Central (45.3%)	New England (11.6%)
West North Central (23.7%)	Mid Atlantic (13.6%)
South Atlantic (20.6%)	Mountain (16.0%)
East South Central (35.4%)	Pacific (12.0%)
West South Central (32.9%)	

Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists

Week ending February 17, 2007 - Week 7



International (WHO, as of February 28): Overall influenza activity in the northern hemisphere increased during weeks 1–7 but remained moderate in general. Influenza A(H3N2) viruses predominated in many European countries and in some Asian countries/areas, where this season’s activity started to increase in early January 2007. Influenza A(H1N1) viruses circulated in the United States and in a few eastern European countries. Influenza B viruses circulated at low levels.

For influenza activity from individual countries, please visit the full WHO article “Seasonal Influenza Activity in the World, 2007” at <http://www.who.int/csr/disease/influenza/update/en/>.

MDCH reported **REGIONAL ACTIVITY** to the CDC for this past week ending February 24, 2007.

End of Seasonal Report

Avian Influenza Activity

WHO Pandemic Phase: Phase 3 - Human infection(s) with a new subtype, but no human-to-human spread or rare instances of spread to a close contact.

International, Human (WHO, February 27): The Ministry of Health in Lao People's Democratic Republic has today reported the first human case of infection with the H5N1 avian influenza virus. The 15-year-old female was from Vientiane, where she developed influenza-like symptoms on February 10th and was hospitalized in Vietiane with fever and respiratory symptoms on February 15th. She sought medical care in neighboring Thailand on February 17th and is currently in Nongkhai public hospital where she remains in stable condition. Samples taken by Lao epidemiologists and Thai clinicians were tested by the National Institute of Health in Thailand and were positive for H5N1 infection. The Lao Government is also providing samples to a WHO collaborating centre for examination.

On February 24 and 25, a team from the Thai and Lao ministries of health and WHO officials investigated the situation in the girl's village and those districts where poultry deaths had occurred earlier. Close contacts of the girl have been identified and are being monitored daily. The adults were provided prophylaxis with oseltamivir and, to date, all of these people remain healthy.

International, Human (WHO, March 1): The Ministry of Health in China has reported one case of human infection with the H5N1 avian influenza virus. The case is a 44-year-old woman from Jian'ou county, Fujian province. She became ill with fever and pneumonia on February 18th and was hospitalized on February 22nd where she remains in critical condition. The case was laboratory confirmed by the Fujian provincial laboratory on February 26th and by the national laboratory the next day.

Information provided to WHO indicates that she is a farmer who kept birds in her back yard and was possibly exposed to sick birds. An investigation is under way to determine if this exposure was the source of her infection. Close contacts have been placed under medical observation. Of the 23 cases confirmed to date in China, 14 have been fatal.

International, Human (WHO, March 1): The Egyptian Ministry of Health and Population has announced a new human case of avian influenza A(H5N1) virus infection. The case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 4-year-old girl was from Dakahlea Governorate. She developed symptoms on February 25th, was admitted to hospital on February 26th and her condition remains stable. The girl was exposed to sick birds at her home one week prior to the onset of symptoms. Contacts of the girl remain healthy and are being closely monitored. Of the 23 cases confirmed to date in Egypt, 13 have been fatal.

International, Poultry (Reuters, February 23): Two outbreaks of bird flu in small flocks in Afghanistan have been identified as the dangerous H5N1 strain, world animal health officials said on Friday. The World Animal Health Organization or OIE said it had confirmed H5N1 in a flock of backyard poultry in Nangarhar province and in turkeys in Kunar province. Just last Sunday, Afghanistan banned poultry imports to prevent the spread of the feared virus, which forced the destruction of a flock of turkeys in Britain and killed birds at a zoo in Pakistan.

The H5N1 strain was found in poultry in at least four Afghan provinces last year, leading to the killing of thousands of birds, but there were no human deaths. Afghanistan imports a large amount of poultry, mostly from Pakistan. The ban imposed last week also applies to other countries hit by H5N1, including Britain, Turkey and Indonesia. The country lies at the junction of Central and South Asia and is on the migration route for several species of wild birds.

International, Poultry (Saigon Times, February 27): The Ministry of Agriculture and Rural Development has reminded all localities in the country to be vigilant against bird flu after the epidemic had been discovered in the northern province of Hai Duong on February 16. Hai Duong is the first northern province to see the epidemic's recurrence this year, as around 70 out of flocks of 10,500 chickens had died for what

is now confirmed bird flu. The animal health team has destroyed all those chickens, and pasteurized breeding facilities and isolated epidemic places. No more signs were discovered after ten days, said Dong Van Chuc, head of the provincial animal health bureau.

Apart from outbreaks in Hai Duong, there have been no new cases nationwide since the last outbreaks in the Mekong Delta five weeks ago, according to the news website VnExpress. From early December last year to February this year, Ca Mau, Hau Giang, Vinh Long, Kien Giang, Tra Vinh and Soc Trang provinces and Can Tho City saw bird flu's recurrence.

International, Poultry and Wildlife (Reuters, February 27): Kuwait confirmed on Tuesday 12 cases of the deadly H5N1 strain of bird flu in turkeys and chicken on Tuesday, but said the birds did not belong to poultry farms. The ministry confirmed on Monday 20 cases in falcons of the same strain at a zoo and a farm in the south of the country, the first in two years.

In the latest development, a health ministry official confirmed a newspaper report that three turkeys and nine chickens were infected and said the ministry was testing people who came in contact with the birds. The cases were found among "domestic backyard caged birds, not on poultry producing farms," Ahmed al-Shatti told Reuters. "About 100 handlers and families of owners of infected birds have been tested and the results were negative. We are continuing the tests," he said. The Gulf Arab state has banned the import of live birds after the outbreaks. It reported a case of the deadly bird flu in a flamingo in 2005.

International, Poultry (Associated Press, February 28): Myanmar has reported a new outbreak of virulent bird flu on the outskirts of its largest city, Yangon, the World Organization for Animal Health said Wednesday. The H5N1 virus outbreak at a farm in Yangon's western suburbs was detected Monday and confirmed by laboratory tests on Wednesday, the Paris-based group said in a statement, citing Myanmar's Ministry of Livestock and Fisheries. A ministry report said the virus affected chickens, ducks and pullets, killing 68 birds. Another 1,292 birds were deemed susceptible to the disease and destroyed, it said. Myanmar's last reported H5N1 outbreak among poultry occurred in April last year, the World Organization for Animal Health said. It said steps taken to control the latest outbreak included restricting the movement of poultry, screening other birds, and quarantining and disinfecting the area.

Michigan Wild Bird Surveillance (USDA, March 1): According to the National HPAI Early Detection Data System website, available at <http://wildlifedisease.nbj.gov/ai/>, Michigan has results for a total of 1799 samples, from both wild birds and the environment, submitted for testing as of February 27th. 232 of these were live-captured birds, 595 were hunter-killed, 174 were sentinel animals, 591 were dead birds that were submitted for testing, and 207 were environmental samples. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 105,125 birds or environmental samples tested nationwide.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

Please contact Susan Vagasky at VagaskyS@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

Table 1. H5N1 Influenza in Poultry (Outbreaks up to February 28, 2007)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 2/28/2007)

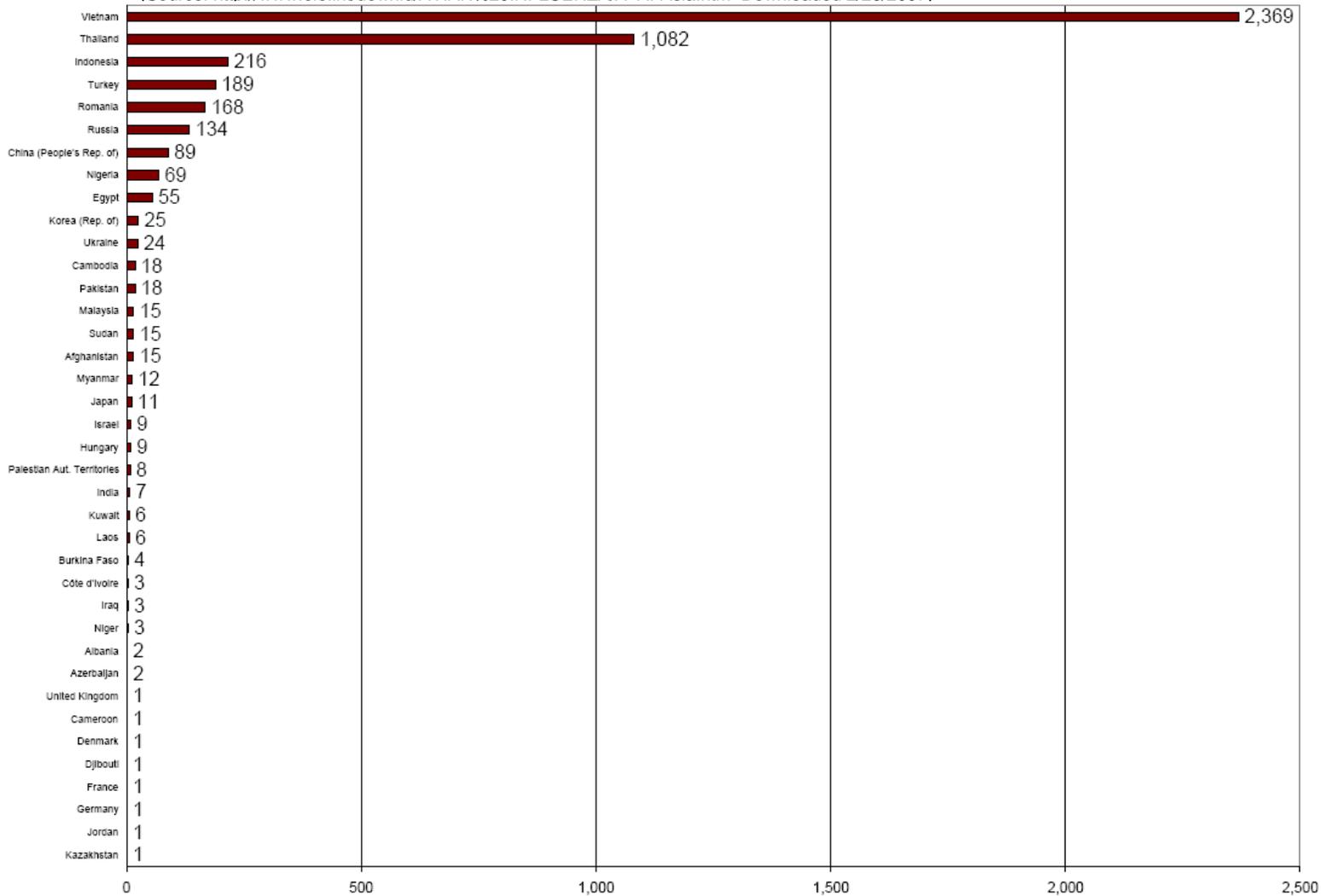


Table 2. H5N1 Influenza in Humans (Cases up to March 1, 2007)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_02_27/en/index.html Downloaded 3/1/2007)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

Country	2003		2004		2005		2006		2007		Total	
	cases	deaths										
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	0	0	6	6
China	1	1	0	0	8	5	13	8	1	0	23	14
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	5	3	23	13
Indonesia	0	0	0	0	19	12	56	46	6	5	81	63
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	1	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	0	0	93	42
Total	4	4	46	32	97	42	116	80	14	9	277	167